CLAIMS

What is claimed is:

1. A composition of matter comprising ADESH is a synthetic peptide consisting of ten amino acids having sequence of N L G E H P V C D S mimics the biological properties of the whole NGF molecule derived from venom.

2. The synthetic peptide ADESH mimics the biological properties of the intact natural NGF, particularly in regards the stimulation of neurite outgrowths on PC12 cells.

3. The binding affinity of Anti-ADESH to NGFs from human body fluids and human origin eukaryotic cells is higher than Anti-V-NGF, which illustrates that the composition of ADESH consisting of ten amino acids is a conserved domain of the activity of human NGF. Therefore, ADESH is immunologically closer to human NGF than venom V-NGF.

4. Synthetic ADESH has potential for treatment of neurological disorders and can be given by various routes; including injection and orally to reach the brain as a small molecule without blood-brain barrier problem.

5. Because ADESH is immunologically closer to human NGF, Anti-ADESH has potential to assay NGF levels in body fluids such as saliva and urine for diagnostic purposes without the necessity of extracting blood.

6. A composition of matter comprising a peptide consisting of
at least the first five amino acids from the N-terminal of the sequence N L G E H P V C D S T D T W V and no more than 25 amino acids.

7. A composition of matter as in claim 6 wherein the peptide containing 5 to 20 amino acids which mimics the biological properties of the intact NGF, particularly in regards the stimulation of neurite outgrowth.

8. Anti-ADESH showed more binding affinity to NGFs from human body fluids and human eukaryotic cells, showing closeness to human NGF.

9. A method of therapy wherein a patient is a victim of a neurogenerative disease, particularly Alzheimers or Parkinson's disease; and ADESH is administered by any of various routes including: nasal insufflation, buccal cavity administration, oral ingestion, intramuscular or intravenous injections.

10. A composition of matter comprising of antibody made versus ADESH is claimed for diagnostic use for assaying NGF levels for various phases of neurological disorders and microgravity environment.

11. A composition of matter comprising of antibody made versus peptides containing from 5 to 15 amino acids from the N-terminal of the sequence N L G E H P V C D S T D T W V for assaying NGF levels.

12. A composition of matter comprising a peptide consisting of
at least the first five amino acids from the N-terminal of the sequence N L G E H P V C D S T D T W V and no more than 25 amino acids total.

13. A composition of matter as in claim 12 wherein the peptide contains no more than 15 amino acids total.

14. A synthetic peptide which produces an antibody which has a binding affinity to NGFs from human body fluids and human origin eukaryotic cells which is higher than a binding

affinity exhibited by an antibody produced in immunological response to an NGF derived from venom.

15. A method for administering a nerve growth factor to a patient in need of such treatment, said method comprising

selecting a nerve growth factor having in the range of 5 to 20 amino acids, and capable of crossing the blood-brain barrier, and

administering said nerve growth factor to said patient in a manner to reach the bloodstream of the patient.

16. A method as in claim 15 wherein the patient is a victim of a neurodegenerative disease selected from the group consisting of Alzheimer's disease and Parkinson's disease and the administration technique is selected from the group consisting of nasal insufflation, buccal administration, oral ingestion, and intramuscular injection.

17. A method as in claim 16 wherein the nerve growth factor comprises a peptide consisting of

at least the first five amino acids from the N-terminal of the sequence N L G E H P V C D S T D T W V and no more than 25 amino acids total.

18. A process comprising contacting, in vitro, a human nerve growth factor with an antibody made against a peptide containing at least five amino acids from the N-terminal of the sequence N L G E H P V C D S T D T W V and no more than 25 amino acids total.

19. A process as in claim 18 wherein the contacting is carried out so as to cause the antibody to react immunologically with the human nerve growth factor.